

## **AMENDMENTS TO THE SPECIFICATION**

**Please amend the specification as follows:**

**Please replace the paragraph beginning page 1, line 23, with the following rewritten paragraph:**

As the magnetic powder used here, in general, ferrite powder is adopted. Rare earth magnetic materials, being poor in the kneading workability and the formability and high in the cost, have been considered unsuitable to mix with the rubber material and have not been adopted in forming the magnetic encoder.

**Please replace the paragraph beginning page 2, line 12, with the following rewritten paragraph:**

In a magnetic encoder that uses ferrite powder as the magnetic powder, as mentioned above, the magnetic force is small; accordingly, in order to endow with practical magnetic characteristics, the ferrite has to be packed in with high density. However, when the ferrite is densely packed, physical properties of the rubber deteriorate largely.

**Please replace the paragraph beginning page 2, line 25, with the following rewritten paragraph:**

An object of the present invention is to overcome problems present in the existing magnetic encoders that use the ferrite powder as the magnetic powder and to provide a magnetic encoder

having strong magnetic characteristics, and is excellent in the formability, and realizable even in view of price.

**Please replace the paragraph beginning page 3, line 4, with the following rewritten paragraph:**

The present Present inventors, after studying variously of various magnetic encoders that use rare earth magnetic material and conducting tests of the magnetic characteristics, found a magnetic encoder that has strong magnetic characteristics, is excellent in the formability and is realizable also from a viewpoint of price.

**Please replace the paragraph beginning page 3, line 9, with the following rewritten paragraph:**

The present invention will be explained with reference to the attached drawings. The magnetic encoder according to the invention, as shown in Figs. 1, 2 and 3, can be used in a wheel bearing (not shown in the drawing), forms a pulse train by means of a magnetic force and generates codes.

**Please replace the paragraph beginning page 3, line 14, with the following rewritten paragraph:**

The magnetic encoder according to the invention is formed by radially magnetizing a magnetic rubber ring 2 with alternate S poles and N poles, said magnetic rubber ring 2 is being

formed by mixing a rubber material and a magnetic powder, wherein rare earth magnetic powder is used as the said magnetic powder.

**Please replace the paragraph beginning page 3, line 19, with the following rewritten paragraph:**

Another magnetic encoder according to the invention is obtained by radially magnetizing a magnetic rubber ring 2 with alternate S poles and N poles, said magnetic rubber ring 2 is being formed by vulcanizing and adhering a magnetic rubber base (not shown in the drawing) to a reinforcement ring 1, wherein the magnetic rubber base is formed by mixing unvulcanized rubber and rare earth magnetic powder.

**Please replace the paragraph beginning page 4, line 12, with the following rewritten paragraph:**

In the magnetic encoder according to the invention, rare earth magnetic powder is used; accordingly, with such a small size, a magnetic force necessary for the magnetic encoder that can be used in a wheel bearing[[,]] forms a pulse train by means of the magnetic force and generates codes that can be obtained. Thereby, a magnetic encoder can be made smaller in size and lighter in weight.

**Please replace the paragraph beginning page 4, line 24, with the following rewritten paragraph:**

As the rubber material, similarly similar to the case of the existing magnetic encoder where the ferrite powder is used as the magnetic powder, any one of nitrile rubber, hydrogenated nitrile rubber, acrylic rubber, butyl rubber and fluororubber can be used.

**Please replace the paragraph beginning page 7, line 21, with the following rewritten paragraph:**

According to the invention, in order to form a magnetic rubber ring 2 that constitutes a magnetic encoder, rare earth magnetic powder comprising neodymium (Nd), iron (Fe) and boron (B) are combined, or rare earth magnetic powder comprising samarium (Sm), iron (Fe) and nitrogen (N) are combined and is mixed with the rubber material. Thereby, since a high magnetic force can be exhibited, a magnetic encoder can be made smaller in size and lighter in weight, and measurement accuracy thereof can be drastically improved.

**Please replace the paragraph beginning page 10, line 18, with the following rewritten paragraph:**

Except that a combination of samarium (Sm), iron (Fe) and nitrogen (N) is used as a rare earth magnetic powder, similarly similar to Example 1, a magnetic encoder according to the invention (effected product 2) was obtained. As the rare earth magnetic powder, one that has a composition,  $\text{Sm}_2\text{Fe}_{17}\text{N}_{2.7}$ , was used.

**Please replace the paragraph beginning page 10, line 24, with the following rewritten paragraph:**

Except that in Example 1, in place of the rare earth magnetic powder, ferrite powder was used, ~~similarly similar~~ to Example 1, an existing magnetic encoder (comparative product 1) was formed.

**Please replace the paragraph beginning page 11, line 24, with the following rewritten paragraph:**

In Examples 1 and 2, a method in which the magnetic rubber base in which unvulcanized rubber and rare earth magnetic powder are mixed was vulcanized, molded and adhered to the reinforcement ring 1, and thereby the magnetic rubber ring 2 was molded ~~was shown~~; however, other forming ~~method~~ methods can be adopted.

**Please replace the paragraph beginning page 12, line 4, with the following rewritten paragraph:**

For instance, after a sheet of a magnetic rubber base in which rare earth magnetic powder is mixed is cut out in a ring shape, this is vulcanized and adhered to a reinforcement ring 1, and thereby forming formed in one body. In this case, it is advantageous in that the workability is excellent in the magnetizing step.